

In the Claims:

Please cancel claims 4, 11-13, 17-20, 25-26, 30, 55, 62-64, 68-71, 81, 88-90, and 94-97 without disclaimer or prejudice.

Please amend claims 1, 6-7, 14, 24, 27-29, 52, 65, 77-78, 91 and 102 as follows:

--1. (AMENDED) A workpiece for removing a metallized surface from a workpiece, wherein a kinetic removal mechanism for removal of said metallized surface is characterized by a formation step for formation of a removable surface film surface and an abrasive step for removal of said film, said process comprising:

causing said workpiece to contact a polishing member while effecting relative motion between said workpiece and said polishing member;

causing a polishing solution having less than 1 wt % of a polishing abrasive to be distributed at a contact area between said workpiece and said polishing member through at least one bore formed in a platen connected to said polishing member to affect a removal rate for removal of said film during said abrasive step; and

establishing a temperature at said contact area by heating and cooling said polishing solution before causing said polishing solution to be distributed to said contact area.—

--6. (AMENDED) The process of claim 2, further comprising forming on said polishing member a plurality of grooves that are configured to facilitate distribution of said polishing solution.—

--7. (AMENDED) The process of claim 3, further comprising forming on said polishing member a plurality of grooves that are configured to facilitate distribution of said polishing solution.—

--14. (AMENDED) The process of claim 1, further comprising circulating a fluid having a predetermined temperature through said platen wherein said platen is formed from a heat conductive material.—

--24. (AMENDED) A process for removing a metallized surface from a workpiece, wherein a kinetic removal mechanism for removal of said metallized surface is characterized by a formation step for formation of a removable surface film and an abrasive step for removal of said film, said process comprising:

pressing said workpiece against a polishing member while effecting relative motion between said workpiece and said polishing member;

causing a polishing solution having less than 1 wt % of a polishing abrasive to be distributed to a contact area between said workpiece and said polishing member through at least one bore formed in a platen connected to said polishing member; and

establishing a temperature at said contact area while said polishing solution is distributed to said contact area to affect a removal rate for removal of said film during said abrasive step by heating and cooling said polishing solution before causing said polishing solution to be distributed to said contact area.—

--27. (AMENDED) The process of claim 24 further comprising circulating a fluid having a predetermined temperature through said platen wherein said platen is formed from a heat conductive material.—

--28. (AMENDED) The process of claim 24, wherein said causing comprises supplying said polishing solution to said contact area through a plurality of pores formed in the polishing member.—

--29. (AMENDED) The process of claim 24, wherein said causing comprises supplying said polishing solution to said contact area through at least one channel formed in said polishing member.—

--52. (AMENDED) A process for removing a copper surface from a workpiece having at least one of single damascene structures and dual damascene structures, wherein the workpiece contacts a polishing member at a contact pressure, said process comprising:

causing a polishing solution to be distributed at a contact area between said workpiece and said polishing member through at least one bore formed in a platen connected to said polishing member so that a rate of removal of said copper surface is approximately proportional to said contact pressure within a range of contact pressures, wherein said range of contact pressures comprises a low-down force pressure; and

establishing a temperature at said contact area by heating and cooling said polishing solution before causing said polishing solution to be distributed to said contact area.—

--65. (AMENDED) The process of claim 52 further comprising circulating a fluid having a predetermined temperature through said platen wherein said platen is formed from a heat conductive material.—

--77. (AMENDED) The process of claim 72, wherein said causing comprises causing a polishing solution to be distributed at a contact area between said workpiece and said polishing member so that a rate of removal of said copper surface is approximately proportional to said contact pressure within a range of contact pressures, wherein said range of contact pressures comprises a low down force pressure in a range of from about 0.10 psi to about 3.0 psi.—

--78. (AMENDED) A process for removing a copper surface from a workpiece having at least one of a single damascene structures and dual damascene structures, wherein the workpiece contacts a polishing member at a contact pressure, said process comprising:

causing a polishing solution having less than 1 wt % of a polishing abrasive to be distributed at a contact area between said workpiece and said polishing member through at least one bore formed in a platen connected to said polishing member so that a rate of removal of said copper surface is approximately proportional to said contact pressure within a range of contact pressures, wherein said range of contact pressures comprises a low down force pressure; and

establishing a temperature at said contact area by heating and cooling said

polishing solution before causing said polishing solution to be distributed to said contact area.

--91. (AMENDED) The process of claim 78 further comprising circulating a fluid having a predetermined temperature through said platen wherein said platen is formed from a heat conductive material.

--102. (AMENDED) The process of claim 98, wherein said causing comprises causing a polishing solution having less than 1 wt % of a polishing abrasive to be distributed at a contact area between said workpiece and said polishing member so that a rate of removal of said copper surface is approximately proportional to said contact pressure within a range of contact pressures, wherein said range of contact pressures comprises a low down force pressure in a range of from about 0.10 psi to about 3.0 psi.—

REMARKS

In the Examiner's August 26, 2002 Office Action, the Examiner objected to claims 77 and 102 and rejected claims 1-36 and 52-102 pending in the Application. This Response cancels claims 4, 11-13, 17-20, 25-26, 30, 55, 62-64, 68-71, 81, 88-90, and 94-97, without disclaimer or prejudice, and amends claims 1, 6-7, 14, 24, 27-29, 52, 65, 77-78, 91, and 102 for further consideration. After entry of the foregoing amendments, claims 1-3, 6-10, 14-16, 21-24, 27-29, 31-36, 52-54, 56-61, 65-67, 72-80, 82-87, 91-93, and 98-102 (4 independent claims, 60 total claims) remain pending in the Application. Reconsideration is respectfully requested.

Claims 1, 6, 7, 24, 28 and 29 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In response to the Examiner's rejection, Applicant has amended claims 1, 6, 7, 24, 28 and 29 to more accurately define the invention.

Claims 77 and 102 stand objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. In response to the Examiner's objection, Applicant has amended the claim to reflect their proper dependency.

The drawings stand objected to for failing to comply with 37 CFR 1.84(p)(5) because